

SPECIFICATIONS

Frequency Response:

400-6,500 Hz ± 5 dB (see Figure 1)

Power Handling:

8 hours, 6-dB crest factor:

15 watts

(500- to 5,000-Hz pink noise)

Impedance,

Nominal:

8 ohms

Minimum, Above 500 Hz:

6.5 ohms (650 Hz)

Sound Pressure Level at 1 Meter,

1 Watt Input Average, Pink Noise

Band-Limited from 500 to 5,000 Hz:

107 dB

Beamwidth (-6 dB, 1.0 kHz to 10 kHz),

Horizontal:

60° (+20°, -20°)

Vertical:

40° (+20°, -10°)

Directivity Factor R_0 (Q):

15.2 @ 2 kHz

Usable Low-Frequency Limit:

350 Hz

Construction:

High impact acrylic-styrene-acrylonitrile (ASA) with ultraviolet-light-inhibiting mesa tan finish. Positive-lock super tough nylon swivel base and rear housing.

Voice-Coil Diameter:

3.81 cm (1.5 in.)

Magnet Weight:

0.28 kg (0.63 lb)

Magnet Material:

Strontium ferrite

Flux Density:

1.30 Tesla

Dimensions,

Height:

22.6 cm (8.9 in.) PA415

22.6 cm (8.9 in.) PA415T

Width:

30.7 cm (12.1 in.) PA415

30.7 cm (12.1 in.) PA415T

Depth:

31.0 cm (12.2 in.) PA415

35.8 cm (14.1 in.) PA415T

Net Weight:

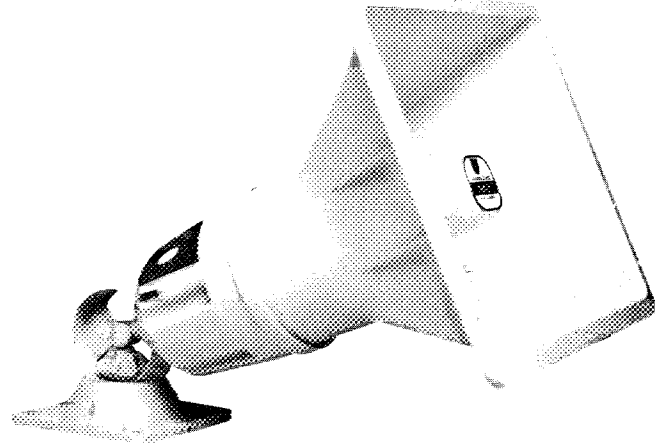
1.4 kg (3.0 lb) PA415

1.7 kg (3.8 lb) PA415T

Shipping Weight:

1.7 kg (3.8 lb) PA415

2.1 kg (4.6 lb) PA415T



DESCRIPTION

The University Sound PA415 and PA415T are conservatively rated 15-watt constant-directivity paging projectors for use in any public address or paging application.

The drivers employ rugged phenolic diaphragms, 1.5-inch diameter voice coils and "rim centered" ferrite magnet structures for long life and reliability under extreme operating conditions.

A 12-inch connecting cable, color coded for phase, is provided for connecting to the PA415 and PA415T.

The transformer model (PA415T) includes connections for 25-V, 70.7-V, and 100-V distributed systems and a screwdriver-operated power tap select switch. (Patent #4,775,766)

A nominal 60° horizontal by 40° vertical coverage pattern together with a low-frequency cutoff of 350 Hz provides excellent articulation in demanding applications.

The PA415 (PA415T) is molded from high-impact ultraviolet-inhibiting acrylic-styrene-acrylonitrile (ASA). A positive lock, super tough nylon swivel base and rear housing provides maximum mounting flexibility and ease of installation. (Patent #4,984,278)

Ideal for both indoor and outdoor applications, these drivers are well suited for any installation requiring rugged, reliable performance.

INSTALLATION

The PA415 has been designed to accommodate a wide range of mounting and aiming requirements.

Mounting to wall, ceiling or to electrical boxes is accomplished without the common requirement of adding a steel plate to the base. Bonding straps may be used for mounting to beams. All mounting holes are knocked through only as needed, preserving a seal in the remaining knockout areas.

Wiring is enclosed within the product base, providing physical protection of wiring and personnel.

The mounting assembly provides three means of adjustment, allowing the horn to be oriented for any coverage pattern desired. Adjustment is accomplished with nuts which require minimal torque to maintain horn position and may be tightened by hand.

During installation, after punching out the desired attachments, the base and horn are loosely secured with one screw. This leaves hands free to wire nut the product zip cord and feed wiring together. After tucking wire connections into the electrical box or base, install remaining screws.

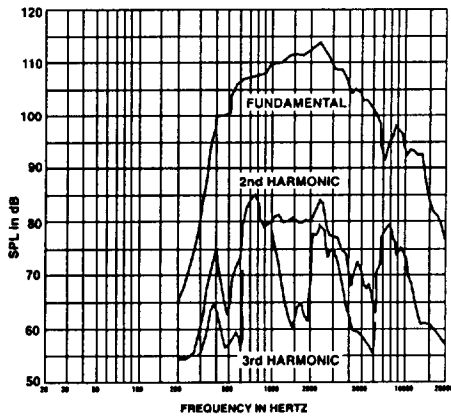


FIGURE 1
PA415 Frequency Response
(1 watt at 1 meter)

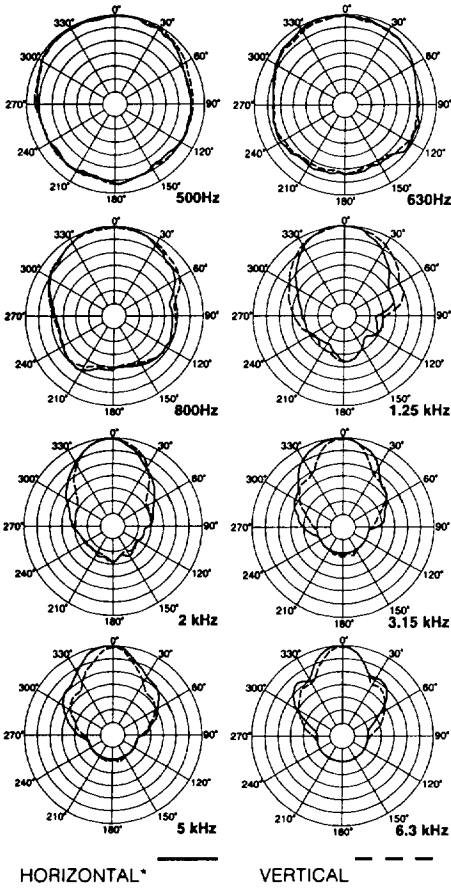


FIGURE 2
PA415 Polar Response

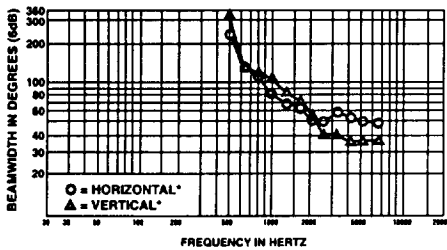


FIGURE 3
PA415 Beamwidth vs. Frequency

* Long system axis vertical.

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8-Ohm Driver	25-Volt Line	70.7-Volt Line	100-Volt Line
25 V	50 V	150 V	150 V
100 mf	50 mf	5 mf	2.5 mf

TABLE I — Recommended Series Protection Capacitor

POWER	IMPEDANCE		
	100-Volt	70.7-Volt	25-Volt
15 W	670Ω	335Ω	42Ω
7.5 W	1,360Ω	670Ω	84Ω
3.7 W	2,700Ω	1,360Ω	170Ω
1.9 W	5,400Ω	2,700Ω	340Ω
0.8 W	10,800Ω	5,400Ω	680Ω

TABLE II — Power Taps

TRANSFORMER MODEL (PA415T)

A transformer and power selector switch are installed in the rear housing.

The level of the PA415T may be adjusted by moving the switch setting (see Table II) using a coin or screwdriver; turn clockwise to increase the power. Since the same switch and transformer are used for either the 100-volt, 70.7-volt or 25-volt line, the power setting depends upon the amplifier output that is used, 100-volt, 70.7-volt or 25-volt.

CAUTION: When connected to a 100-volt or 70.7-volt line, do not use the switch settings marked "DO NOT USE," as this may result in excessive power driving the PA415T.

LOW-FREQUENCY DRIVER PROTECTION

For proper system operation, program information should be highpassed at 300 Hz or higher with at least a 6-dB-per-octave slope filter. This is best accomplished before the power amplifier using a low-level crossover; however, protection of amplifier and paging projector may alternately be accomplished using a capacitor in series with the projector. Table 1 gives values for such protection capacitor. Polyester capacitors are recommended, but non-polarized electrolytic or two series back-to-back connected electrolytics, each of twice the value shown, may be used.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The loudspeaker(s) shall be an integral driver and constant-directivity horn utilizing a rugged phenolic diaphragm and high-temperature-rated, 1.5-inch diameter voice coil.

The axial frequency response will extend from 400 to 6,500 Hz, and the horn shall exhibit a low-frequency cutoff of 350 Hz. Sound pressure level will be 107 dB (1 W/ 1 m) with a 500- to 5,000-Hz pink-noise signal applied, and the horn will produce a horizontal beamwidth of 60° and a vertical beamwidth of 40° from 1 kHz to 10 kHz.

The loudspeaker(s) shall be capable of handling a 15-watt, 500- to 5,000-Hz pink-noise signal with a 6-dB crest factor for a period of 8 hours.

The horn shall be molded, high-impact acrylic-styrene-acrylonitrile (ASA) capable of satisfactory mechanical performance in the temperature range from -4 °C (-40 °F) to 71 °C (160 °F) and not subject to sunlight embrittlement. Other major external speaker parts shall be molded nylon, finished in mesa tan to match the horn. All components shall be resistant to damage from weather, moisture and fungus.

A positive-lock swivel bracket shall provide orientation adjustment in all three places. Adjustments are made by loosening one or both of the locking nuts on the mounting hoop.

The loudspeaker(s) shall be 22.6 cm (8.9 in.) high, 30.7 cm (12.1 in.) wide and 31.0 cm (12.2 in.) deep — PA415; or 35.8 cm (14.1 in.) deep — PA415T.

The loudspeakers shall be the University Sound PA415 which has a nominal impedance of 8 ohms and weighs no more than 1.4 kg (3.0 lb); and the University Sound PA415T, which includes a 100-V/70.7-V/25-V line-matching transformer, has a nominal impedance of 8 ohms and weighs no more than 1.7 kg (3.8 lb).

WARRANTY (LIMITED) —

University Sound Speakers and Speaker Systems (excluding active electronics) are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to University Sound. Unit will be returned prepaid. Warranty does not extend to finish, appearance items, burned coils, or malfunction due to abuse or operation under other than specified conditions, including cone and/or coil damage resulting from improperly designed enclosures, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. Repair by other than University Sound will void this guarantee. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For warranty repair and service information on University Sound products, contact: University Sound, 10500 West Reno, Oklahoma City, Oklahoma 73128 (405/324-5311 or 800/444-9516); Attention: Customer Service Department.

For technical assistance, contact the Technical Services Representative at University Sound.

Repair locations:
Speaker products including LR Line radiators, PI Series speakers, CDP848AT, CDP850T, Musicaster100, FC100, Interface Series, MC Series, SP Series, and TK60: University Sound, 600 Cecil Street, Buchanan, MI 49107; Attention: Service Department.

All other paging speakers and speaker products: University Sound, Inc., 10500 West Reno, Oklahoma City, OK 73128; Attention: Service Department.

Specifications subject to change without notice.



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